Bull 300 Vacuum Manual

US Version 110 Volt

SASE Company, Inc.
Phone 800.522.2606 or Fax 877.762.0748
www.SASECompany.com

Corporate Office
26423 79th Ave South
Kent, WA 98032-7321
1.800.522.2606 (P)
1.877.762.0748 (F)
www.SASECompany.com
sales@SASECompany.com

Congratulations on your decision to get the Power of SASE behind you! SASE is committed to excellence, excellence in the quality of products we sell and excellence in service and support after the sale. It is important to us that your business continues to succeed and grow, and we know that the right products, service and support can have a great impact on your bottom line.

SASE has made great strides in the concrete preparation and polishing industry over the years. With a 40,000 square foot distribution and service facility in Seattle, a 22,000 square foot distribution and service facility in Knoxville, and local sales and technical support representatives throughout the United States, SASE is able to provide unsurpassed service and technical support for the contractor.

At SASE we engineer and manufacture our own equipment, which allows us to be in control of the quality of the equipment we sell. SASE offers a complete line of concrete preparation and polishing equipment, our newest introduction being our new line of PDG planetary diamond grinders, which is setting a new standard for the concrete grinding and polishing industry. SASE is also the leader in diamond tooling technology.

We look forward to a long and prosperous partnership with you! Thank you again for choosing SASE. You won't regret having the Power of SASE behind your company!

Sincerely,

SASE Company, Inc.

Jim Weder

President

SASE Company Inc. Equipment Safety Policy Statement

SASE Company, Inc. is adamant that safety is one of the highest priorities for both our employees and customers. When considering set-up and operation of any piece of equipment supplied, manufactured, distributed, rented or serviced by SASE Company, Inc., the safety and protection of people should always be a top priority.

All customers and employees should follow all OSHA and local safety standards, requirements and regulations.

The use of the following safety equipments are both recommended and required when operating any piece of equipment supplied, manufactured, distributed, rented or serviced by SASE Company, Inc.

- OSHA approved/certified eye protection (safety glasses).
- OSHA approved/certified hearing and ear protection.
- OSHA approved/certified foot protection (steel toed boots).
- OSHA approved/certified respirator or breathing device.
- OSHA approved head protection (hard hat).
- Proper protective work gloves.
- Proper protective clothing limiting skin exposure.

(The list is not meant to be all inclusive. Please exercise sound judgments during operation.)

The work area must always have proper ventilation to minimize the health and safety risks of propane and gasoline emissions and airborne dust.

All SASE Company Equipment is engineered, designed and provided with dust control shrouds and vacuum ports. It is strongly recommended that an approved dust containment system be connected to and used in conjunction with all SASE Company equipment during operational use. SASE Company supplies, distributes, rents and services dust control systems with HEPA filtration.

Extreme caution must be exercised at all times when electrical power is considered. All SASE employees are prohibited from working on or hard wiring our equipments to any power source that has not been provided by SASE Company Inc. Any such work must be performed by a certified electrical technician. No SASE employee is permitted or authorized to work on, operate, or connect our equipment or equipment belonging to our customers to an electrical source that does not meet OSHA approved specifications. There are no exceptions to this policy! SASE Company, Inc. also strongly recommends that only certified electricians be permitted to deal with or manipulate electrical power sources within our customers' facilities or on their job-sites.

Finally, we at SASE Company, Inc. cannot stress enough the importance of following general safety practices, the utilization of appropriate safety equipment and the application of common sense when operating equipment supplied, manufactured, distributed, rented or serviced by SASE Company, Inc. both on the job-site and in the field.

(ERFR 11/2012)

SASE Bull 300 Series **Vacuum System Operating Instructions**

Instructions for Installation, Repair, and Maintenance

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Warranty

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Headquarters

SASE Company, Inc.
26423 79th Ave S.
Kent, WA 98032

Sales & Distribution

SASE Company, Inc.
2475 Stock Creek Blvd
Rockford, TN 37853

FOREWORD

To achieve the safe installation and operation of your new SASE *Bull 300* vacuum system, we urge you to become familiar with the information in this manual.

The *SASE Bull 300* industrial vacuum cleaning system is designed for heavy duty operation. The mechanical and electrical components are of a robust nature and will provide long life with minimal maintenance even under severe conditions.

This manual describes the installation and preventative care requirements to ensure their maximum life and to provide virtually trouble-free operation for years ahead.

This manual is prepared in four (4) general Sections:

Replacement Parts Lists, if applicable, can be found within the individual sections pertaining to that item.

Past experience indicates that **the majority of part replacements and repairs occur due to misuse or carelessness by personnel not qualified to operate and service this equipment.** Observance of the instructions in this manual will minimize references to those Sections pertaining to Repair and Replacement.

WARRANTY

SASE Company, Inc. warrants this equipment to operate within the limits of our specification when properly used, properly operated, and properly maintained. Various subsystems are warranted as follows:

All metal work excluding paint:	**6 years** Limited to failure of structural due to poor workmanship.
Vacuum Producer:	**6 months** Limited to premature failure due to poor workmanship by manufacturer.
Filters:	**2 years (4000 hours)** Limited to premature failure due to poor workmanship.

Any part proven defective in material and workmanship shall be duplicated without charge **F.O.B. your jobsite**. **This warranty excludes normal wear and tear of parts** or equipment, and especially excludes degradation from normal abrasion of corrosion.

Please note! The vacuum producer requires unrestricted air flow! Running the SASE Bull 300 "deadheaded" for more than a few minutes will overheat the vacuum producer and void the warranty.

This **warranty shall be void if the equipment has been altered** or if any attempt to repair this equipment has been made by persons, institutions or firms not authorized by SASE Company, Inc. to make repairs.

SASE Company, Inc. will not be responsible for any costs of LABOR to remove or re-install equipment, TOOLS, MATERIALS, INSURANCE, OVERHEAD or any INCIDENTAL, SPECIAL, CONSEQUENTIAL or other expenses which may be incurred by the purchaser in the execution of this warranty.

SASE Company, Inc. will NOT assume any responsibility under terms of this warranty in parts or equipment which have not been paid for in full, or where an account is outstanding for 60 days or more.

Please call 1-800-522-2606 with any questions!

Section 1

Health and Safety Recommendations

Bull 300 Series

The Information Contained In This Section Can Help Prevent Serious Personal Injury.

PLEASE READ THIS SECTION CAREFULLY BEFORE OPERATING OR SERVICING THIS EQUIPMENT.

This section outlines some of the health and safety issues that must be acknowledged when operating or servicing your *SASE* industrial vacuum cleaning system.

It is important that plant operators are made aware of the responsibility incumbent on them to take all necessary precautions to ensure their health and safety, and that plant authorities implement the procedures necessary toward this end.

We strongly advise that you, the customer, add to, and tailor, these safety recommendations to suit your own particular working and operating environment.

Explosive Dust

Please contact us if your process changes so we may help evaluate your risk.

The operators of this equipment must always be aware of the physical and chemical properties of the dust particles being collected. A surprising number of dusts are flammable or prone to explosion when mixed with air as we find with a filter receiver application.

Materials or processes presenting such hazards MUST be identified by the customer.

The customer must also be alert to any changes in the dust material or process. If a new process is introduced after the installation of the vacuum system which changes the composition, quantity, or most especially the chemical type of material being introduced into the vacuum system, this may greatly increase the chance of explosion and fire.

If your process is to be changed, or if you have any concerns, we suggest you contact us to see how we can assist you to ensure that the operation of your *SASE* industrial vacuum cleaning system is as safe as possible.

Isolate Electrical Before Maintenance

Company specific lockout and safety procedures should be inserted in this section.

DO NOT ATTEMPT ANY MAINTENANCE WORK UNTIL ALL ELECTRICAL GEAR HAS BEEN ISOLATED.

Isolate all electrical before removing any guards, covers or accessories before beginning any maintenance or repair work.

Always lock out the main system blower disconnect before opening any inspection door on any separator or filter receiver.

Before re-connecting the electrical supply, ensure that all guards, covers and accessories are correctly replaced.

Implement Measures to Handle Respirable Dust

Operators must be fitted with appropriate respirators and must wear protective clothing if handling dust that may be irritating or even toxic.

We recommend that the MSDS's for each of the dusts to be handled by the vacuum system be included in this manual, and that specific measures to handle problem materials be clearly identified in those sections of this manual where the operator is exposed to these dusts; i.e. filter bag replacement, etc.

Use Suitable Electrical Warning Notices

Do NOT leave electrical gear live and unattended without a suitable warning notice.

Distinctive warning notices must be provided for posting in a conspicuous position to any piece of electrical equipment or machinery on which maintenance is being carried out, and which, for any reason whatsoever, is liable to be left unattended while in a live condition.

Use CAUTION When Using the Hoses

SASE vacuum systems use blowers that develop very high vacuum conditions which can be dangerous if caution is not observed.

> DO NOT PUT THE END OF THE HOSE AGAINST YOUR SKIN OR CLOTHES OR THOSE OF OTHERS!

Remove the hose from the inlet valve to dislodge materials that plug the end of tools.

Section 2

Maintenance Instructions

Bull 300 Series

This Section Contains Information about the Upkeep and Maintenance of the SASE Bull 300 Industrial Vacuum System

This section contains information of the following topics:

1. The Filtration System
2. Filter Bag Maintenance
3. Removing Filter Bags
4. Installing New Filter Bags
5. Filter Bag Specification and Re-Order Info
6. The Inline Filter and Re-Order Info
7. The Vacuum Producer
8. The Electric Motor
9. The Dust Can
10. Vacuum Seal Troubleshooting

This equipment is designed for full time operation under the most severe conditions; however, proper maintenance procedures must be observed.

Please read and follow the instructions on the following pages to ensure proper operation of each of the components of your system.

The Filtration System

The *SASE Bull 300* Series of vacuum systems is designed to handle super-fine powders, so the filtration sub-system is its "heart" and must be maintained properly. The unit is equipped with ten (10) inverted bag type tubular filters which collect the fine dust particles on the filter's **inside surfaces** during operation.

Before commissioning, remove top motor housing and check to ensure all bags are firmly secured to the lower bag plate. The top of the bags are attached to the

top of the filter housing by use of tie wraps and the bags must not be loose or out of place.

NOTE: A loose or unsecured bag will allow product to pass through the filter separator and will plug the in-line filter.

The filter bags should be shaken <u>at least</u> daily, preferably after each use**.** To shake filter bags, simply shut off the vacuum and shake the filter assembly arm swiftly back and forth. This rapid movement will dislodge particles on the inside of the filter bag surfaces and drop them into the dust can.

NOTE: The unit must be OFF in order to shake the filters.

If the filters are to be replaced, please replace them ALL at once, or they will be a constant source of frustration.

Filter Bag Maintenance

The following is a recommended program of preventative maintenance:

1. Check that the filters are seated properly and that they do not appear to be leaking WEEKLY. **There should be NO appreciable or visible dust inside the filter housing.**
2. Replace ALL the filters if wear points or holes are noticed.
3. If the secondary filter cartridge becomes plugged, check for holes or leakage in the primary filter bags, or upgrade the primary filter material to a more efficient type.
4. Replace the secondary filter cartridge when it becomes dirty.

Removing Filter Bags

Operators must be outfitted with appropriate respirators and must wear protective clothing if handling dust that may be irritating or toxic.

Access the filters by removing the vacuum producer section. To change the filter bags, clip the plastic wrap on each bag tied on the filter shaker assembly inside the tank at the top.

Squeeze the spring cuff at the bottom of the bag compressing the snap ring into a "U" shape, and remove from the bag plate hole.

Installing New Filter Bags

The most common installation mistake is to release the cuff lower than it should be. The groove in the bag cuff matches the hole size exactly.

Grasp the spring cuff at the bottom of the bag and compress into a "U" shape. Insert into the proper hole in the bag plate, and release the bag bottom, **assuring the "groove" in the bag cuff is centered in the bag plate hole**.

Use a new plastic tie wrap to fasten the filters onto the filter shaker assembly.

After installing all the filters, check the installation from below; all the filters should be neatly and evenly seated.

WARNING: Failure to assure proper seating of the bag in the bag plate will allow material leakage.

Filter Bag Specification

The filter bags supplied with this system are:

Material:	12 oz. PTFE polyester felt with snap band
Quantity:	14
Length:	23 1/2
Bag Plate Hole Size	4"
Grounding Required:	

Filter Bag Re-order Instructions

When re-ordering replacement filters, use Part Number:
NWA.00090

The Inline Filter

The inline filter supplied with this unit will help prevent damage to the exhauster in case of failure of a primary filter bags.

Should the air flow of the *SASE Bull 300* become reduced, check that the inline filter has not become blinded by dust by removing the vacuum motor housing.

In this situation, inspect the bags for damage, or to see if they have become loose. Properly clean the bags if no damage is seen.

Remove the inline filter, and clean by back flushing with compressed air (NOT recommended), or replace the filter.

Restart the unit. If after a short period of time, the inline filter becomes plugged or blinded, replace the filter bags *and* the inline filter element.

Inline cartridge element re-order instructions.

The standard replacement inline filter element re-order number is:

NWA.00093

The Other Mechanical Sub-Systems

The *SASE DVR* features an AMETEK brushless vacuum producer which is designed to run for approximately 4,000 hrs. The integral motors have permanently sealed bearings and do not require periodic lubrication.

Please note! The vacuum producer requires unrestricted air flow! Running the SASE Bull 300 "deadheaded" for more than a few minutes will overheat the vacuum producer and void the warranty. THIS UNIT IS NOT RECOMMENED FOR CONNECTION TO A CENTRAL VACUUM PIPING NETWORK.

Section 4 of this manual features the vacuum producer. Please refer to that section for vacuum producer troubleshooting and maintenance instructions.

The following sub-sections describe typical maintenance requirements and the problems that can occur.

The Dust Can

The dust can supplied with this unit is operated by use of two over-center latches.

For proper operation, the dust can must be properly sealed with the filter housing. When in the latched up position, ensure that the pin of the over-center latch matches the hooks on the dust can.

Do not over-tighten the latches! Only a moderate pressure is required to form an airtight seal.

NOTE: Dispose of waste material in accordance with local environmental codes.

Vacuum Seals

If you experience a "lack of suction", almost certainly there is a leak in a seal somewhere in the system. The following is a short list of common fail points:

1. **Check all gasket seals**. If air is leaking in through these seals, dust will normally collect on the inside surface of the housing showing the exact location of the leak. Sometimes, running your hands around the door frame will allow you to locate the leak. Either way, replace the seals as required.

2. Especially check the dust can gaskets. If they are torn or worn, please replace them.

3. DO NOT over-tighten the lifting mechanism. Almost certainly that will cause more problems than it fixes. The dust can flange need only depress the gasket. The seal will form when the system is turned on. Over-tightening the lifting mechanism will only lead to premature wear of the gasket and will cause constant problems.

4. Check the hoses for cracks and leaks. **A hose covered in duct tape is a sure indicator that the hoses should be replaced**.

AMETEK

LAMB ELECTRIC

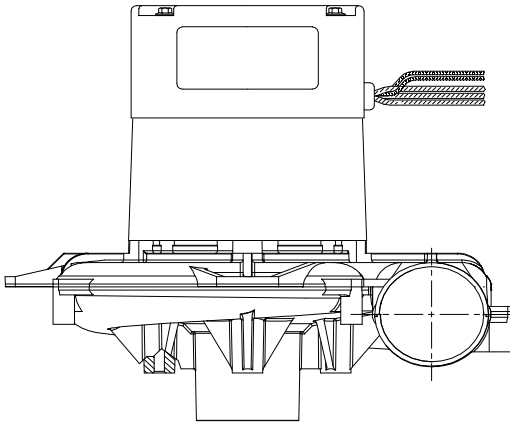
Product Bulletin

Model: 121018-00

FLO-TEK

DESCRIPTION

- One stage
- 120 volts
- 9.0" / 229 mm diameter
- Dual ball bearings
- Tangential discharge
- All aluminum die cast housings used in motor construction



SPECIAL FEATURES

- Suitable for 120v AC operation, 50/60 Hz
- **Speed control capability**
- UL component recognized
- Provision for grounding
- Brushless Switched Reluctance design
- 10 mm shaft and bearing system
- Flat fan system
- Fuse protection included on electronics circuit board
- Aluminum fan end bracket designed to dampen vibration and improve durability

DESIGN APPLICATION

- Equipment operating in environments requiring separation of working air from motor ventilating air
- Designed to handle clean, dry, filtered air only

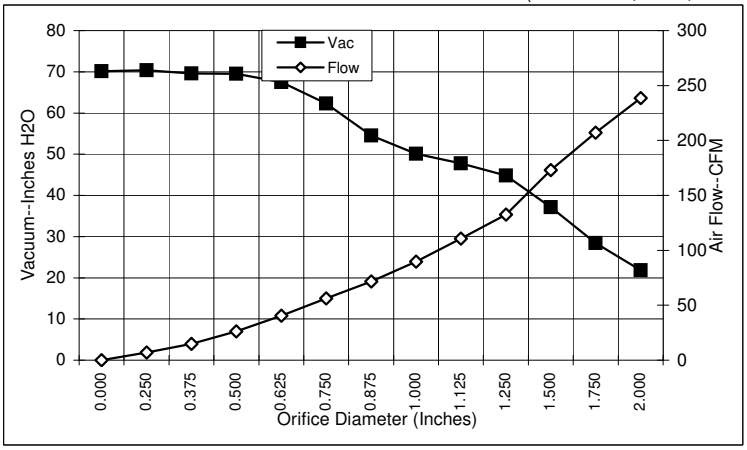
Please refer to SR Blower Application Notes (listed below) for details on the operation and wiring of our SR speed control motor.

INFIN-A-TEK

TYPICAL MOTOR PERFORMANCE.*

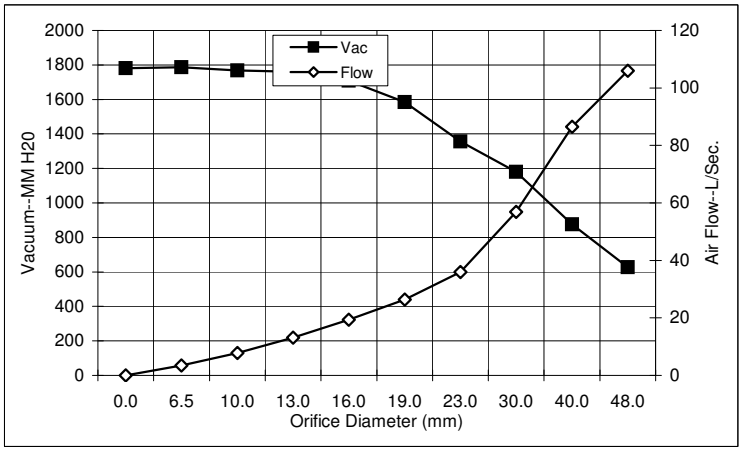
(At 120 volts, 60Hz, test data is corrected to standard conditions of 29.92 Hg, 68° F.)

ASTM DATA



Orifice (Inches)	Amps	Watts (In)	RPM	Vac (In.H2O)	Flow (CFM)	Air Watts
2.000	16.4	1758	20820	21.8	238.4	612
1.750	16.4	1750	20820	28.4	207.0	692
1.500	16.8	1771	21310	37.1	173.0	754
1.250	15.8	1654	22000	44.8	132.4	697
1.125	14.9	1600	22570	47.8	110.7	622
1.000	14.5	1488	22900	50.1	89.6	528
0.875	13.4	1410	23600	54.5	71.7	459
0.750	12.5	1317	24400	62.3	56.2	411
0.625	12.4	1293	25480	67.5	40.5	321
0.500	11.8	1223	26390	69.5	26.3	215
0.375	11.0	1161	26900	69.6	14.9	122
0.250	11.1	1158	27930	70.4	7.0	58
0.000	10.6	1110	28440	70.1	0.0	0

METRIC DATA



Orifice (mm)	Amps	Watts (In)	RPM	Vac (mm H2O)	Flow (L/Sec)	Air Watts
48.0	16.4	1754	20820	627	106.0	647
40.0	16.7	1765	21163	876	86.5	735
30.0	15.3	1624	22314	1180	56.9	656
23.0	13.7	1430	23425	1356	36.0	476
19.0	12.5	1317	24422	1585	26.4	409
16.0	12.4	1294	25437	1709	19.4	325
13.0	11.9	1230	26299	1760	13.1	226
10.0	11.1	1170	26824	1767	7.8	136
6.5	11.0	1158	27879	1787	3.5	61
0.0	10.6	1110	28440	1781	0.0	0

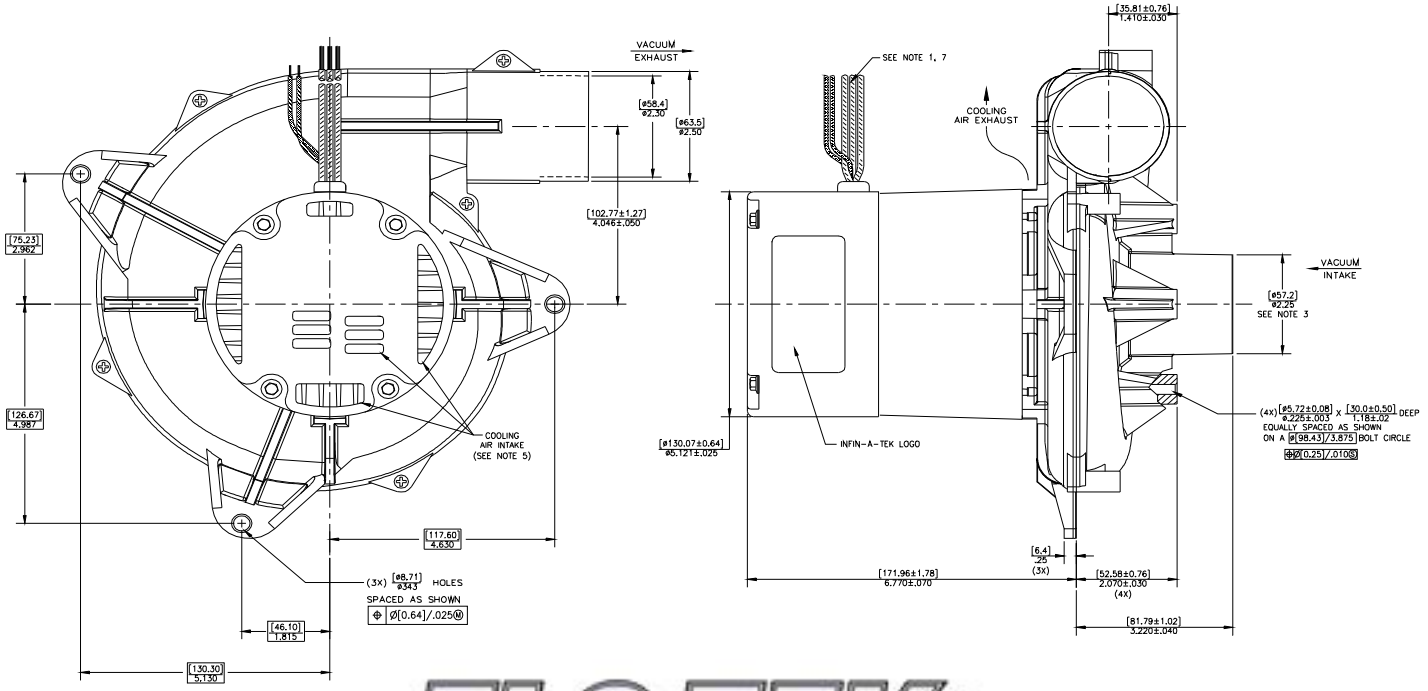
Note: Metric performance data is calculated from the ASTM data above.

* Data represents performance of a typical motor sampled from a large production quantity. Individual motor data may vary due to normal manufacturing variances.

Test Specs: TBD	**Minimum Sealed Vacuum: TBD**	**ORIFICE: 7/8"**	**Minimum Vacuum: TBD**	**Maximum Watts: TBD**

DIMENSIONS

NOTES:
1. LEADS: 18 GA. STRANDED; POWER LEADS ONE BLACK AND ONE WHITE. GROUND LEAD GREEN WITH YELLOW STRIPE. LEADS: 22GA.: "ON/OFF" FEATURE ONE YELLOW AND ONE ORANGE.
2. MOTOR IDENTIFICATION: MANUFACTURER'S NAME, MODEL NUMBER, VOLTAGE, FREQUENCY, INSPECTORS CODE, DATE OF MANUFACTURE, AGENCY RECOGNITION CODE, PLANT LOCATION CODE, "THERMALLY PROTECTED I. 16.0A", MADE IN THE USA AND THE FOLLOWING PATENT INFORMATION: "MANUFACTURED UNDER PATENT NOS. US5789893, TW81933, SG38957, ZA96/2766, US5760519, EP0702448B1, ZA95/7123 UNDER LICENSE FROM SWITCHED RELUCTANCE DRIVES Ltd. OTHER U.S. AND FOREIGN PATENTS PENDING. COPYRIGHT CODE 1998, ALL RIGHTS RESERVED."
3. MOUNTING MUST NOT RESTRICT THIS DIAMETER.
4. ALLOW [0.0026 SQ M]/4.0 SQ IN. (MIN.) FOR COOLING AIR INTAKE.
5. COOLING AIR INTAKE MUST BE SEPARATED FROM COOLING AIR EXHAUST.
6. COOLING AIR EXHAUST MUST BE SEPARATED FROM VACUUM EXHAUST.
7. OBSERVE NEC WIRING CONVENTION (BLACK-LINE AND WHITE-NEUTRAL) TO INSURE PROPER PLACEMENT OF CONTROL MODULE FUSE IN THE CIRCUIT.



All switched reluctance motors are thermally protected using an auto-reset device.

(120v) AC Power Input
90v - 135v Nominal Operating Voltage

Manufactured under Patent nos. US5789893, TW81993, SG38957, ZA96/2766, US5760519, EP0702448B1, ZA95/7123 under license from Switched Reluctance Drives Ltd. Other US and foreign patents pending. Copyright code 1998. All rights reserved.

IMPORTANT NOTES: *Pictorial and dimensional data are subject to change without notice. Contact factory for current revision levels.*

WARNING - When using AMETEK/Lamb Electric bypass motors in machines that come in contact with foam, liquid (including water) of other foreign substances, the machine must be designed and constructed to prevent those substances from reaching the fan system, motor housing and electrical components. Lamb vacuum motors other than hazardous duty models should not be applied in machines that come in contact with dry chemicals or other volatile materials. Failure to observe these precautions could cause flashing (depending on volatility) or electrical shock which could result in property damage and severe bodily injury, including death in extreme cases. All applications incorporating Lamb motors should be submitted to appropriate organizations or agencies for testing specifically related to the safety of your equipment.

Switched Reluctance Blower Application Notes

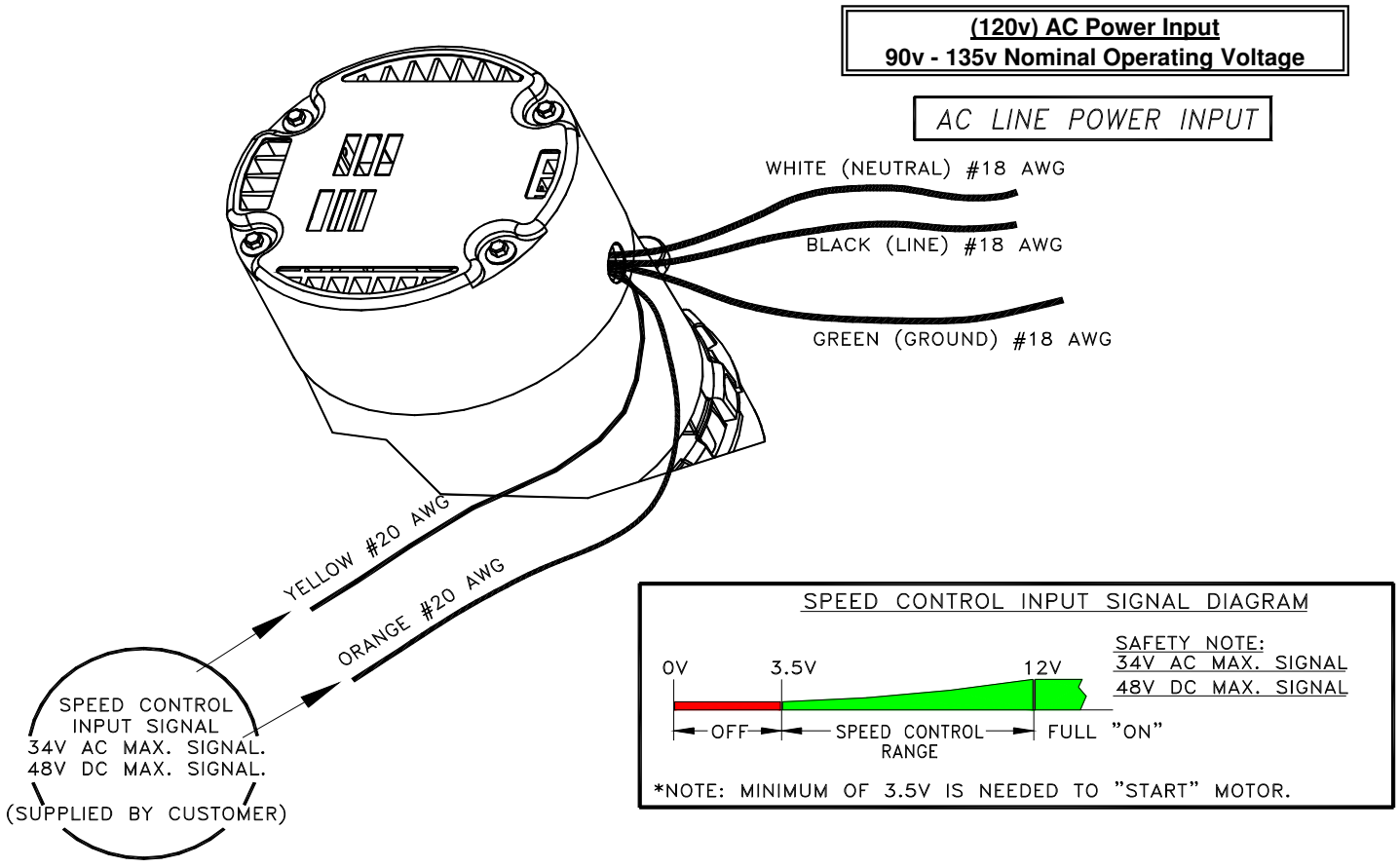
Lamb Electric Infin-A-Tek (SR) Blower User's Guide

The INFIN-A-TEK blower utilizes a switched reluctance (SR) brushless motor, which is commutated electronically. Similar to a brush type series universal motor, the INFIN-A-TEK (SR) blower operates from AC line voltage **(90v - 135v nominal voltage)**. However, the INFIN-A TEK (SR) blower features an integral electronic control module that rectifies the "AC line voltage" to obtain the DC voltage required to power the motor.

The INFIN-A-TEK (SR) blower contains an imbedded microprocessor which controls the SR motor. This feature allows for the addition of an electronic "SPEED CONTROL", which allows the user to remotely control the speed of the blower. Speed control is obtained by use of a low voltage signal (provided by the customer) and can be in the form of either an AC, or DC signal (34V and 48V maximum respectively). The signal voltage tells the motor when to turn on, and also at what speed to operate. It is important to note the SR motor requires a minimum of 3.5V to start the motor, and reaches full speed at 12V. Our "SPEED CONTROL" will present a maximum 20 milliamp load to the control signal voltage. Please consult our wiring diagram listed below for specific wiring details.

Please review the diagram below carefully. The connection of the wires from the blower must be in accord with this sketch for the unit to operate properly.

SWITCHED RELUCTANCE
"AC" BLOWER DIAGRAM



Important Notes:

1. Motor "SPEED CONTROL" can be obtained by supplying either **AC** (34V maximum) or **DC** (48V maximum) voltage signal to the motor control wires. The input signal should be applied to the Yellow #20 awg and Orange #20 awg control wires as shown in the above diagram. Failure to limit the above AC and DC input voltages could result in controller damage.

2. A minimum of 3.5V input signal is required to start the operation of the blower, and maximum speed is reached at 12V.

All switched reluctance motors are thermally protected using an auto-reset device.

Switched Reluctance Blower Application Notes Continued

Lamb Electric Infin-A-Tek (SR) Blower User's Guide

DIAGRAM A:
TYPICAL **TANGENTIAL** EXHAUST SR BLOWER INSTALLATION

NOTE: The customer's vent cover must allow for a minimum of 4.0 square inches of cooling area to provide adequate motor cooling

NOTE: Motor mounting must not restrict air inlet ports on motor cover

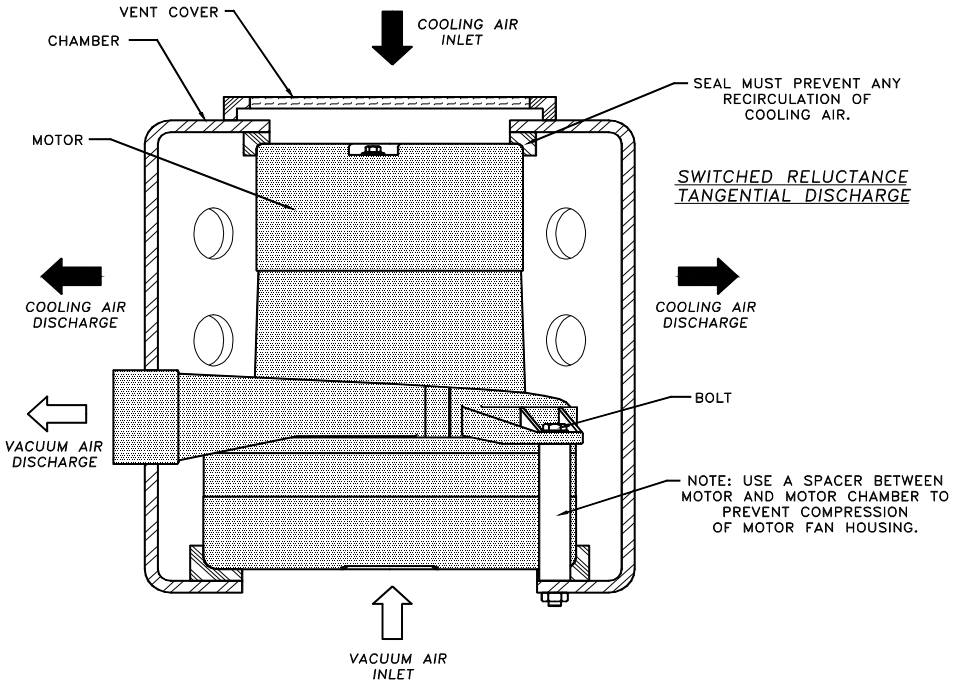
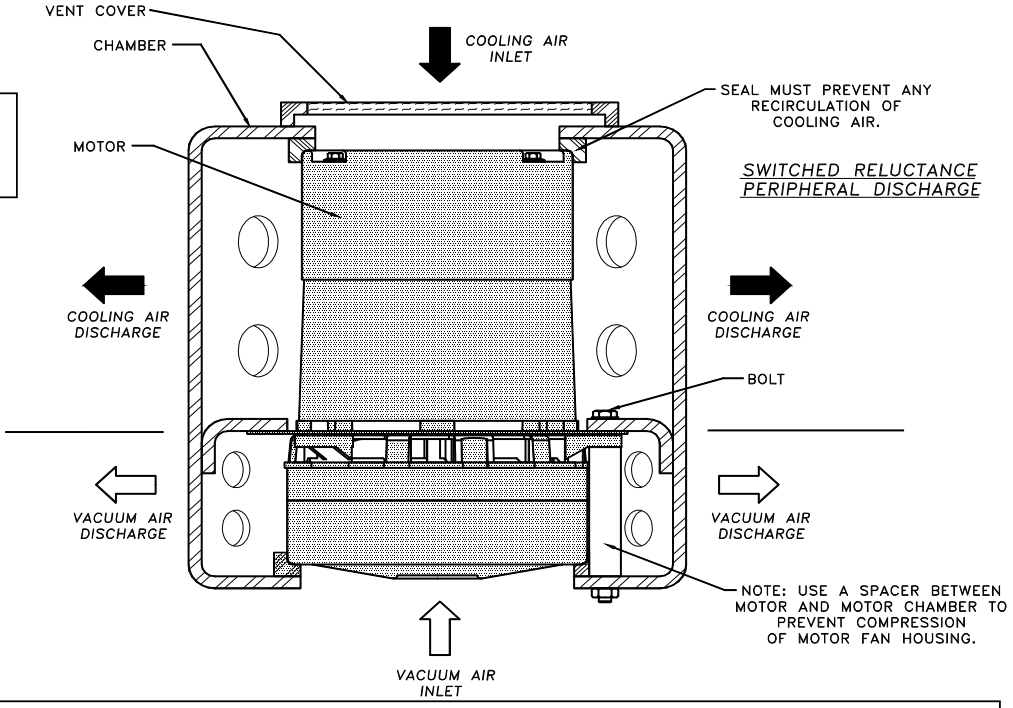

VENT COVER
CHAMBER
COOLING AIR INLET
SEAL MUST PREVENT ANY RECIRCULATION OF COOLING AIR.
MOTOR
SWITCHED RELUCTANCE TANGENTIAL DISCHARGE
COOLING AIR DISCHARGE
COOLING AIR DISCHARGE
BOLT
VACUUM AIR DISCHARGE
NOTE: USE A SPACER BETWEEN MOTOR AND MOTOR CHAMBER TO PREVENT COMPRESSION OF MOTOR FAN HOUSING.
VACUUM AIR INLET

DIAGRAM B:
TYPICAL **PERIPHERAL** EXHAUST SR BLOWER INSTALLATION

NOTE: The customer's vent cover must allow for a minimum of 4.0 square inches of cooling area to provide adequate motor cooling

NOTE: Motor mounting must not restrict air inlet ports on motor cover



Installation Notes / Recommendations:
The above diagrams (A & B) provide "typical" installation recommendations for the application of Infin-A-Tek (SR) tangential exhaust and peripheral exhaust blower products. This information illistrates the required separation of "working / vacuum air" and "cooling air" within the above product enclosure. The separation of "working / vacuum air" and "cooling air" is essential to maintaining the extended life of the SR blower motors. Prolonged exposure of the motor's electronics to elevated temperatures, is not recommended.

AMETEK/Lamb Electric Division
627 Lake Street
Kent, Ohio 44240 (U.S.A)
Tel: (330) 673-3451 Fax: (330) 673-8994

Revised: July, 2004

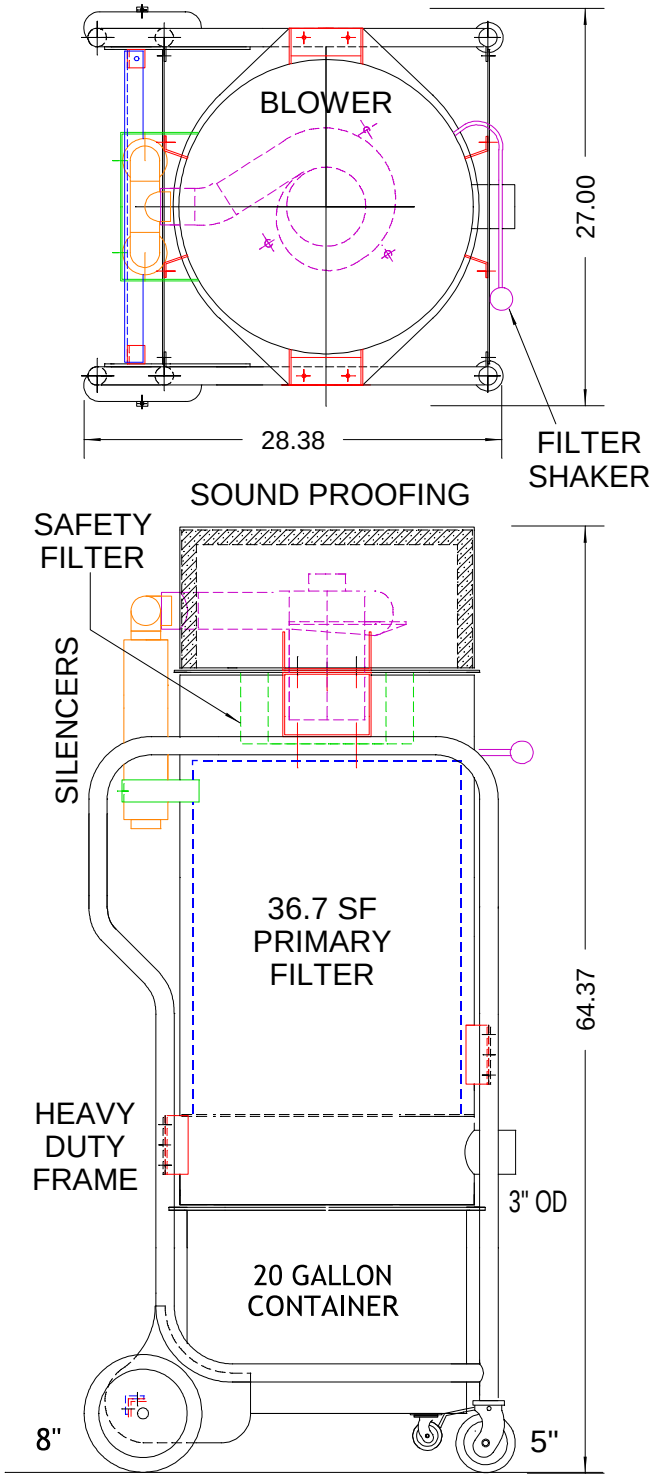
LIFETIME SERIES VACUUM SYSTEM
MODEL SASE BULL 300

FEATURES:

- EXCLUSIVE 320 CFM VACUUM MOTOR RATED FOR OVER 4000 HOURS USE
- 36.7 SQ FOOT MAIN FILTER RATED 99.9% EFFICIENCY AT 0.5 MICRONS
- EXTERNAL FILTER SHAKER COMPLETELY RECONDITIONS THE FILTERS IN SECONDS
- BUILT-IN SAFETY FILTER HELPS LONG LIFE OF THE VACUUM MOTOR
- HUGE FILTER AND 20 GALLON CAPACITY ALLOW OPERATION ALL DAY LONG WITHOUT CONSTANT, COSTLY SHUTDOWNS
- FILTERS LAST 1 - 2 YEARS AT LEAST
- SUPER QUIET OPERATION
- HEAVY DUTY STEEL FRAME COMPLETELY SURROUNDS FOR IN-TRUCK PROTECTION
- DRAG UP STAIRWAYS OR INTO THE TRUCK WITH JUST ONE MAN
- POWDER COATED FINISH FOR LONG LASTING PROTECTION
- SOFT WHEELS WON'T SCUFF FLOORS

THIS VACUUM HAS BEEN DESIGNED SPECIFICALLY FOR THE WOOD FLOOR CONTRACTOR WHO DEMANDS RELIABLE OPERATION WITH ALMOST NO SERVICE IN ABUSIVE JOBSITE CONDITIONS

320 CFM AND 70" WG
120-1-60 16A
106 LBS



			DATE:	11 APR 05	SASE COMPANY, INC. KENT, WA 98032 800-522-2606
			DRAWN BY:	KRW	
			SCALE:	N.T.S.	CONTINUOUS DUTY VACUUM LIFETIME SERIES
00	05 FEB 07	ISSUED FOR REVIEW	DRAWING No.	Rev.	
No.	DATE	REVISIONS	070205 - D01	01	

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